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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/522,296	03/09/2000	Harunobu Kusumoto	8203-341	3309

7590 04/17/2002

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EXAMINER

PASSANITI, SEBASTIANO

ART UNIT	PAPER NUMBER
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3711

DATE MAILED: 04/17/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/522,296	KUSUMOTO ET AL.	
	Examiner	Art Unit	
	Sebastiano Passaniti	3711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 04 February 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.
- 4) Claim(s) 1-29 is/are pending in the application.
 - 4a) Of the above claim(s) 22-27 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-16, 18-21, 28 and 29 is/are rejected.
- 7) Claim(s) 17 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some *
 - c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

This Office action is responsive to communication received 02/04/2002 - Request for Extension of Time and Amendment A.

Claims 1-29 remain pending.

Claims 22-27 remain withdrawn from further consideration.

Following is an action on the MERITS:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 6, 7, 8, 9, 10, 11, 12, 14, 15, 18, 28 and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable over Mockridge (GB 2230459) in view of Take, Helmstetter and Drajan. Mockridge differs from the claimed invention in that Mockridge does not show a shaft-securing portion homogeneously formed as part of the outer shell structure. The teaching references to Take, Helmstetter and Drajan each show it to be old in the art to fabricate the shaft securing portion, i.e., the hosel, as part of the shell structure to form a unitary part. For example, note shaft support portions (73, 75) in Take. For instance, Helmstetter notes that the tube (36) is made part of the heel portion of the club head in order to receive the lower portion of the shaft. Helmstetter notes additional advantages in having the tube (36) formed as part of the shell structure including the ability of the clubmaker to provide greater uniformity in club head shape due to reduced warpage during the molding process resulting from the lack of a

separate and outwardly present hosel structure. In addition, the extension of the shaft securing means from the top to the bottom of the cast head enables a clubmaker to maximize "heel feel"; thus, making the cast club head display attributes comparable to those found in high quality persimmon woods. See col. 3, line 50 through col. 4, line 3 along with col. 5, line 57 through col. 6, line 14 in Helmstetter. Finally, Drajan clearly portrays the shaft support arrangement (28) as being integrally formed with the shell (10) adjacent the heel (18). See Figure 1 in Drajan. In view of the patent to Drajan, it would have been obvious to modify the device in the cited art reference to Mockridge by casting the shaft securing portion homogeneously with the remaining shell portion from a top portion to a bottom portion of the shell, the motivation being to simply provide the added benefits enhanced rigidity throughout the shaft securing means. Moreover, the selection by the clubmaker to assemble the shell in Mockridge through either the mating of diverse parts or through the casting of a single piece would have been obvious at the time the invention was made, as it has been held to be within the level of one of ordinary skill in the art to make integral that which has been heretofore been made in separate parts. With respect to the remaining limitations in the claims and with respect to the Mockridge patent, note that the club head includes a top (14), a sole (18), and heel and toe portions (Figure 2). In addition, said shaft securing portion is noted as socket (19) and extends between the top and sole portions (Figure 1).

As to claim 6, a shaft securing hole or bore (20) penetrates the socket (19) from the top to the sole.

As to claim 7, the shaft-securing hole includes a bottom (Figure 1).

As to claim 8, the bottom of the shaft securing hole and the sole lie in the same plane.

As to claim 9, the bottom portion of the shaft securing hole and the sole have substantially the same thickness.

As to claim 10, see page 1, lines 20-22, wherein Mockridge notes that the socket (19) may be cast integrally with the head.

As to claim 11, the shaft-securing portion (bore (20)) is clearly dimensioned to accept a cylindrical lower shaft portion (21).

As to claim 12, Figure 2 shows that at least a clearance of from 1 mm to 10 mm exists between the heel portion and the shaft securing element (19), particularly closer to the sole; thus, forming a hollow portion.

As to claim 14, Figure 2 shows that the hollow portion is wider in width nearer the sole than at the top.

As to claim 15, as the sole and heel are distinct portions of the head, it is clear that an edge is formed between the sole and the heel wall.

As to claim 18, Figures 1 and 2 clearly show a hosel portion formed at the top by projecting the shaft-securing portion from the top portion.

As to claim 29, the top portion of the club head body is provided with an aperture (joining hole) to accommodate the shaft-receiving element (19).

Claims 1, 2, 3, 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo ('097) in view of Take, Helmstetter and Drajan. Endo differs from the claimed invention in that Endo does not show a shaft-securing portion

homogeneously formed as part of the outer shell structure. The teaching references to Take, Helmstetter and Drajan each show it to be old in the art to fabricate the shaft securing portion, i.e., the hosel, as part of the shell structure to form a unitary part. For example, note shaft support portions (73, 75) in Take. For instance, Helmstetter notes that the tube (36) is made part of the heel portion of the club head in order to receive the lower portion of the shaft. Helmstetter notes additional advantages in having the tube (36) formed as part of the shell structure including the ability of the clubmaker to provide greater uniformity in club head shape due to reduced warpage during the molding process resulting from the lack of a separate and outwardly present hosel structure. In addition, the extension of the shaft securing means from the top to the bottom of the cast head enables a clubmaker to maximize "heel feel"; thus, making the cast club head display attributes comparable to those found in high quality persimmon woods. See col. 3, line 50 through col. 4, line 3 along with col. 5, line 57 through col. 6, line 14 in Helmstetter. Finally, Drajan clearly portrays the shaft support arrangement (28) as being integrally formed with the shell (10) adjacent the heel (18). See Figure 1 in Drajan. In view of the patent to Drajan, it would have been obvious to modify the device in the cited art reference to Endo by casting the shaft securing portion homogeneously with the remaining shell portion from a top portion to a bottom portion of the shell, the motivation being to simply provide the added benefits enhanced rigidity throughout the shaft securing means. Moreover, the selection by the clubmaker to assemble the shell in Endo through either the mating of diverse parts or through the casting of a single piece would have been obvious at the time the invention was made,

as it has been held to be within the level of one of ordinary skill in the art to make integral that which has been heretofore been made in separate parts. With respect to the remaining limitations in the claim 1 and with respect to the Endo patent, see Figure 6, wherein Endo shows a club head having a top (54), sole (56), toe portion (58) and heel portion (57). A shaft-securing portion (62) extends from the top to the sole. Endo discloses a hollow metal shell (col. 4, lines 1-13). Figure 6 shows a first hollow portion between the shaft securing portion (62) and the heel portion (57)

As to claim 2, see Figure 7 and col. 4, lines 31-40, wherein Endo details that the face portion (53) is fixed to the main body (52).

As to claim 3, the hidden lines depicting the extension of shaft securing portion (62) indicate that the shaft securing portion is also spaced from the front striking face (53); thus, forming a hollow portion between the shaft securing portion and the face portion.

As to claim 5, see col. 3, lines 1-10, wherein Endo clearly discloses press working.

As to claim 16, Figure 6 indicates that the inside portion of the toe is higher than the inside portion of the heel in a cross-section passing through the axis of the shaft securing hole and along the face portion.

Claims 1, 13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mockridge (GB 2,230,459) in view of Take, Helmstetter, Drajan and Minabe. Mockridge in view of Take, Helmstetter and Drajan has been discussed above. Mockridge, as modified, differs from the claimed invention in that Mockridge does not

disclose the claimed wall thickness that is required by claim 13 nor the particular materials defined in claims 20 and 21. Minabe teaches a wall thickness of 1.2 mm (col. 3, lines 29-31) to reduce the weight of the head. Minabe further outlines that a pipe-guiding groove (34), which is deemed to serve as a support portion, attaches the shaft-securing portion (24c) to the heel portion. Still further, Minabe makes reference to β -type materials for both the face and the head, although notes that other titanium alloys may be used (col. 3, lines 25-38). These materials provide the required rigidity for the club head. In view of the patent to Minabe, it would have been obvious to modify the Mockridge device to include these claimed features, the motivation being to make the club head both lighter in weight and rigid and to more securely retain the shaft securing shaft portion.

Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mockridge (GB 2,230,459) in view of Take, Helmstetter, Drajan and Motomiya. Mockridge in view of Take, Helmstetter and Drajan has been discussed above. Mockridge, as modified, differs from the claimed invention in that Mockridge uses a casting method to form the club head. Motomiya acknowledges that club heads formed by the lost wax process, e.g., cast club heads, often suffer from pinholes and cracks (col. 1, lines 16-21), noting that forged pieces substantially eliminate said pinholes and cracks (col. 1, lines 36-40). Further, Motomiya shows the commonness of fashioning the head from plural forged elements, with the face making up a distinct part and mated to the remainder of the shell to form a hollow structure (col. 3, lines 3-6 and Figure 3). The incorporation of press forging to generate separate club head parts is deemed to be

advantageous by Motomiya from a manufacturing point of view (col. 4, lines 19-25). In view of the patent to Motomiya, it would have been obvious to modify the device in the cited art reference to Mockridge by substituting a forging process for the casting procedure disclosed by Mockridge, the motivation being to produce a high quality club head that is substantially free of defects such as cracks and pinholes. Further and in view of the teachings in Motomiya, it would have been obvious to provide a separate face united to a club head body as opposed to fashioning a unitary cast body, the motivation being to make it desirable to mass produce the club heads, i.e., make the club heads use a less expensive process.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mockridge (GB 2,230,459) in view of Take, Helmstetter, Drajan and Mills. Mockridge in view of Take, Helmstetter and Drajan has been discussed above. To have further modified the Mockridge device such that the shaft securing portion does not protrude above the top portion to provide an even, finished appearance would have been obvious in view of the patent to Mills which shows it to be old in the art to provide a shaft securing element (Figures 4, 5) that remains confined within the head. Note that Mills details that the club head construction he details is not limited to clubs formed exclusively formed of wood material.

Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

RESPONSE TO ARGUMENTS

Applicant's arguments with respect to claims 1-21, 28 and 29 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sebastiano Passaniti whose telephone number is 703-308-1006. The examiner can normally be reached on Mon-Fri (6:30-3:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Sewell can be reached on 703-308-2126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3579 for regular communications and 703-308-7768 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

S. Passaniti
Sebastiano Passaniti
Primary Examiner
Art Unit 3711

S.Passaniti/sp
April 11, 2002